

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) A method for fabricating an olfactory sensor on a substrate having a pair of electrodes, said method comprising:

a) depositing at least one conducting material as a first layer onto said substrate having a pair of electrodes, the first layer being capable of sensing a chemical analyte that contacts the first layer; and

b) depositing at least one non-conductive or insulating ~~polymer~~ film that is capable of absorbing the chemical analyte that is provided thereon as a second ~~layer~~ layer, onto said first layer of conducting material, thereby fabricating said sensor ~~[[,]]~~; and

c) post-processing said second layer of polymer film after depositing upon said first layer of conducting material, in order to burn-in the olfactory sensor,

wherein said olfactory sensor is comprised of at least one sensor composition, and

wherein the chemical analyte is absorbed within the second layer so as to make contact with the first layer; and

wherein the post-processing comprises:

exposing the second layer to either a non-polar substance or a polar substance,

wherein the exposing step is performed in cycles over a predetermined time

period.

2. (Original) The method according to claim 1, wherein said conducting material comprises carbon black.

3. (Original) The method according to claim 1, wherein said deposition of said conducting material is by aerosol spraying.

4. (Original) The method according to claim 2, further comprising drying said carbon black before deposition of said second layer.

5. (Original) The method according to claim 2, wherein said carbon black layer has a thickness between about 0.01 micron to about 10 microns.

6. (Original) The method according to claim 5, wherein said carbon black layer has a thickness between about 0.1 micron to about 1 micron.

7. (Original) The method according to claim 1, further comprising depositing said first layer of conducting material through a mask.

8. (Original) The method according to claim 7, wherein said mask comprises a plurality of apertures.

9. (Original) The method according to claim 1, wherein said deposition of said first layer of conducting material comprises robotic amateur.

10. (Currently Amended) The method according to claim 1, wherein said deposition of said second layer of ~~said polymer film~~ comprises robotic amateur.

11. (Currently Amended) The method according to claim 1, further comprising depositing said second layer of ~~polymer film~~ through a mask.

12. (Original) The method according to claim 11, wherein said mask comprises a plurality of apertures.

13. (Canceled).

14. (Previously Presented) The method according to claim 13, wherein said post-processing is selected from the group consisting of vacuum processing, photoactive polymerization and cross-linking.

15. (Currently Amended) The method according to claim 1, wherein said sensor is an array of sensors having a first sensor composition and a second sensor composition, the method further comprising:

forming and wherein at least one sensor in the array of sensors has to have a star-shaped configuration and forming at least another sensor in the array of sensors has to have a spiral-shaped configuration.

16. (Previously Presented) The method according to claim 15, wherein said first sensor is compositionally different than said second sensor composition.

17. (Previously Presented) The method according to claim 15, wherein said first sensor composition has a different polymer film layer than said second sensor composition.

18. (Original) The method according to claim 1, wherein said substrate comprises a dielectric material.

19. (Original) The method according to claim 1, wherein said substrate further comprises a member selected from the group consisting of a heater, a thermistor and a combination thereof.

20. (Original) The method according to claim 1, wherein said substrate further comprises a member selected from the group consisting of a temperature probe, humidity probe and a combination thereof.

21. (Currently Amended) A method for fabricating an olfactory sensor on a substrate having a pair of electrodes, said method comprising:

- a) depositing a first layer of conducting material onto said substrate having a pair of electrodes to form a substrate having a conducting material disposed thereon, the first layer being capable of sensing a chemical analyte that contacts the first layer;
- b) drying said substrate having a conducting material disposed thereon to remove any solvent;
- c) depositing a second layer of ~~polymer~~ non-conductive or insulating film that is capable of absorbing the chemical analyte that is provided thereon, onto said first layer of conducting material, to form a fabricated sensor; and
- d) post-processing said fabricated sensor to cure said second layer of ~~polymer~~ film, wherein the chemical analyte is absorbed within the second layer so as to make contact with the first layer,

wherein the post-processing comprises:

exposing the second layer to either a non-polar substance or a polar substance,

wherein the exposing step is performed in cycles over a predetermined time

period.

22. (Original) The method according to claim 21, wherein said sensor is an array of sensors.

23. (New) The method according to claim 21, wherein said sensor is an array of sensors having a first sensor composition and a second sensor composition, and wherein the method further comprises:

forming at least one sensor in the array of sensors to have a star-shaped configuration and forming at least another sensor in the array of sensors to have a spiral-shaped configuration.

24. (New) The method according to claim 1, wherein the exposing step comprises:

exposing the second layer to both the non-polar substance and the polar substance at respective saturated vapor concentrations for the non-polar substance and the polar substance, wherein the exposing step is performed at room temperature.

25. (New) The method according to claim 21, wherein the exposing step comprises: exposing the second layer to both the non-polar substance and the polar substance at respective saturated vapor concentrations for the non-polar substance and the polar substance, wherein the exposing step is performed at room temperature.